

Work Order ID **54889**



Page 1

January 5, 2010 8:28:30 AM

Item ID: D204-635-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 05/01/2010 Start Qty: 1.00



Cust Item I

Required Date: 18/01/2010 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: *BT*

Date: 10-1-05 Tooling:

Date:

QC:

Date: SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D2590

Rev. 0

100

0.00



DC

0.00

Document Control

Memo

Photocopy bluefile & type labels per PPP D204-635-041
CHG 002

N/A

PTC

W/O: 54889		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
10-01-28	W/O avg hender	Add avg hender D 2590 Rev-D perm change		10-05-05			

Part No: D204-635-041 PAR #: _____ Fault Category: SKETCHES NCR: Yes ^{12 yes} No DQA: _____ Date: 10-05-06
 Resolution: re-work Disposition: re-work QA: N/C Closed: Yes Date: 10/05/07

NCR: 54889		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
10.04.19	130	TOW-RING HOLE LARGER THAN RIDGE. GRINDING OF RIDGE AFTER BENDING NARROWED THE RIDGE	CP 10.04.19 per DSI 042	WELD TOP & BOTTOM OF RIDGE TO ADD MAT'L. IN FUTURE, LEAVE RIDGE AS-IS. REF DS EMAIL	BE 10/01/12	10/04/10	CP 10.04.19 per DSI 042	10/04/10
		R.C. process & material crushing is inconsistent.						

NOTE: Date & initial all entries

Work Order ID 54889

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Item ID: D204-635-041

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Setup Start



Revision ID:

Item Name: Replacement Skidtube

Stop



Start Date: 05/01/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 18/01/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

110

0.00



Skidtubes

Skidtubes

Memo

0.00

1- Inspect mat'l D2500-1-190 for damage

2-Cut D2500-1-190 per Dwg D2590 .Deburr ends

3-Drill pilot holes using drill jig DT 8149 & DT8711-1&-2

4-Acid etch and Alodine tube per QSI 005 4.1

5-Open holes to 0.500" as per Dwg D2590 without cutting fluid

6-Countersink holes as per Dwg D2590 without cutting fluid

7-Deburr and blow out all chips from inside of tube

8-Bond web in place per QSI 015. Allow 12 Hrs. cure time before cutting

Pick:

Qty ☐ Part Number ☐ Description ☐ Batch

A/R ☐ Sikaflex-291

Sikaflex expire date: 2/26/12

Start Time: 3:30PM

Fin Time: 2:45AM

10-01-07

DP 10-1-6

DP 10-1-6

MB 10-01-06

MB

W/O:		WORK ORDER CHANGES						
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Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

120

0.00



CNC Bend 1

Memo

0.00

CNC Delta 100 Bender

Bend as per program D2590.C on CNC Bender

DP 10-1-7

130

0.00



Skidtubes

Memo

0.00

Skidtubes

1-Cut tubes as per Dwg. D2590.

DP 10-1-7

2-Deburr ends after cutting. Remove alodine from around holes

BE 10-1-7

140

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

2) 8/10/10

(H)

W/O:		WORK ORDER CHANGES					
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Revision ID:

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Start Date: 05/01/2010 Start Qty: 1.00

Cust Item ID:

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Custom:

Reference:

Run Start

Approvals: Process Plan: Date: Tooling: Date:

Stop

QC: Date: SPC (Y/N): Date:

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

150

0.00

Skidtubes

Memo

0.00

Skidtubes

1-Prepare tube for welding D2576-3 StepRemove alodine as required.

2-Weld step D2576 as per Dwg. D2590 and QSI 004

A/R Aluminum Rod

M112060

3-Weld crossbolt spacers D2579 as per Dwg. D2590 and QSI 004. For

D2579 spacers, weld one side, pass 3/8" drill, weld other side, pass

3/8" drill

A/R Aluminum Rod

M112860

4-Grind welds as per Dwg D2590 Grind flush ridge made from bending

5-Drill holes for wearplates using DT 8218 & DT8937 Open holes to 19/64",

adjust stopper not to hit web. Debur

6-Counterbore crossbolt spacers to 7/16" ID x 1.0" deep as per Dwg D2590.

Debur holes

7-Drill pilot holes for aff cap using DT 8215 Open holes to #6 Drill bit. Debur

8-Drill pilot holes for Towing using DT9425, open to .640" and Debur

****verified dim. before drilling****

BE 10/21/11

BE 10/24/11

BE 10/21/11

AWM 10-01-12

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Customer:

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Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160

QC10- Inspect visual per QS1004- ground welds

0.00



QC

Memo

0.00

8/10/04/27

Quality Control

170

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

8/10/04/27

Quality Control

175

10.04.26

Pressure wash and Rebaseline tube as per
QSI 005 section 4.1.2.1 do not acid etch

Ⓚ

Ⓚ 10-4-26

180

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

0.00

11/14/207 => JM 10/04/27

1 Ⓚ

Powder Coating

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

7:15AM
320°C
7:45AM

W/O:		WORK ORDER CHANGES					
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Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

⇒ m h 10/04/27 (12)

W/O:		WORK ORDER CHANGES						
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Setup Start



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Start Date: 05/01/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 10/01/2010 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

200

0.00



HandFinish

Hand Finishing

Memo

0.00

1-Install inserts & weaplates & gaskets using a drop of Sikaflex on insert holes before installing weaplates

A/R ☐ Sikaflex-291 ☐ M112429

Sikaflex expire date: 10/08

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2590 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive

A/R ☐ Sikaflex-291 ☐ M112429

Sikaflex expire date: 10/08

5-Wing Walk as per Dwg D2590 and QSI 005

4.4

Batch: M113545

M-k
10/04/28

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Required Date: 18/ /2010 Req'd Qty: 1.00

Reference:

Cust Item ID:

Customer:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

210

QC5- Inspect part completeness to step on W/O

0.00

QC

Memo

0.00

Quality Control

PMP 54887

220

QC21- Final Inspection - Work Order Release

0.00

QC

Memo

0.00

Quality Control

1 644/5/3 (1)

10/05/04

BS 10-5-04

W/O:		WORK ORDER CHANGES						
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Picklist Print

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Page 1

Work Order ID: 54889

Parent Item: D204-635-041

Parent Item Name: Replacement Skidtube

Start Date: 05/01/2010

Required Date: 18/01/2010

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
ALS7-1032-130		Purchased	No			180	Each	1,530.000	44.0000			



Insert

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST

M114407

1530

105855

16

108606

52

111529

188

111779

313

112772

11

113238 ✓

950

31 X

m-d

10/04/27

13 X

AN3-5A

Purchased

No

180

Each

1,975.000 2.0000



Bolt

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST

1975

100188

188

105057 ✓

1787

2x m-d

10/04/27

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Page 2

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Parent Item: D204-635-041

Parent Item Name: Replacement Skidtube



Comments:

Start Date: 05/01/2010

Required Date: 18/01/2010

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Est Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN3C4A 		Purchased	No			180	Each	1,195.000	44.0000			
BOLT												

Warehouse	Loc Qty	Loc Code
Location		
Main Warehouse	114330	
ST	1195	
112314	13	
112720	12	
112724	3	
112829	1	
112991	2	
113121	64	
113226	586	
113359	14	
113422	500	

44x m-l
10/04/27

AN960C10L

Purchased

No

180

Each

416.0000

44.0000

washer

NA51149C0332R

Warehouse	Loc Qty	Loc Code
Location		
OFFSHORE	M 114341	
FG	100	
103585	100	
Main Warehouse		
ST	316	
112116	156	
112612	160	

44x m-l
10/04/27

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Shop Packet Print

Page 2

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Comments:

Start Date: 05/01/2010

Required Date: 18/01/2010

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty to Pick	Qty Issued	Date Issued	Status
AN960JD10L Washer		Purchased	No			180	Each	4,915.000	2.0000			

~~11A5A49C0332R~~

Warehouse	Loc Qty	Loc Code
Location		
Main Warehouse	11A5A49C0332R	
ST	4915	
101291	16	
104885	25	
105793	236	
109632	174	
110985	4464	

2X m-l
10/04/27

D2594-1

Manufactured No

180 Each 250.0000 10.0000

Plug, 205 Skidtube

Warehouse	Loc Qty	Loc Code
Location		
Main Warehouse	B 55002	
FP	122	
54008	17	
54643	105	
Main Warehouse		
ST	128	
42221	16	
42807	92	
43884	3	
46435	2	
51527	9	
51757	6	

10 X m-l
10/04/27

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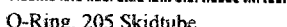
Comments:



Start Date: 05/01/2010

Required Date: 18/01/2010

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2594-3 		Manufactured	No			180	Each	362.0000	10.0000			
O-Ring, 205 Skidtube 												

Warehouse	Loc Qty	Loc Code
Location		
Main Warehouse		
FP	27	
51613	27	
Main Warehouse		
ST	335	
52562 ✓	335	
D2855 	180	Each
Cap	160.0000	1.0000
		

*

10x m-l 10/04/27

Warehouse	Loc Qty	Loc Code
Location		
Main Warehouse		
FP6	160	
50513	1	
50770	1	
51539 ✓	42	
53791	116	

10/04/27

1x m-l

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D3564-11		Manufactured	No			180	Each	16.0000	1.0000			



Wearshoe

Warehouse	Loc Qty	Loc Code
<u>Location</u>		
Main Warehouse	B57259	
FP19	14	
52125	14	
Main Warehouse		
ST	2	
45823	1	
50112	1	

12 m-l
12/04/27

D3564-13

Manufactured No

180

Each

34.0000

1.0000



Wearshoe

Warehouse	Loc Qty	Loc Code
<u>Location</u>		
Main Warehouse	B56533	
FP17	22	
51611	22	
Main Warehouse		
ST	12	
45409	2	
46495	10	

12 m-l
12/04/27

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Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3564-7 		Manufactured	No			180	Each	22.0000	1.0000			
Wearshoe												

Warehouse	Loc Qty	Loc Code
Location		
Main Warehouse		
ST	22	
33803 ✓	5	
43229	15	
46492	2	

10/04/27

12 m-l

D3564-9 	Manufactured	No				180	Each	13.0000	1.0000			
Wearshoe												

Warehouse	Loc Qty	Loc Code
Location		
Main Warehouse		
FP19	11	
53806	11	
Main Warehouse		
ST	2	
44659	1	
45825	1	

B 57260

12 m-l

10/04/27

January 5, 2010 8:28:34 AM

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Page 6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 7

January 5, 2010 8:28:34 AM

Work Order ID: 54889

Parent Item: D204-635-041

Parent Item Name: Replacement Skidtube

Comments:

Start Date: 05/01/2010

Required Date: 18/01/2010

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq It	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3566-1		Manufactured	No			180	Each	27.0000	2.0000			



Gasket

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP

22

52512

3

54480

19

Main Warehouse

ST

5

46349

1

51218

1

51259

3

D3566-13

Manufactured

No

180

Each

94.0000

1.0000



Gasket

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP

92

51606

9

53461

83

Main Warehouse

ST

2

45717

1

50265

1

2x m-l
10/04/27

1x m-l
10/04/27

January 5, 2010 8:28:35 AM

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Page 7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 8

January 5, 2010 8:28:35 AM

Work Order ID: 54889

Parent Item: D204-635-041

Parent Item Name: Replacement Skidtube


Start Date: 05/01/2010

Required Date: 18/01/2010

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3566-7 		Manufactured	No			180	Each	8.0000	1.0000			
Gasket												

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST

37354 ✓

8

8

110

Each

96.0000

1.0000

D2500-1-190



Ext'n -I' Beam Tube 4"

Manufactured

No

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

LG

52319

Main Warehouse

ST

46468

93

93

110

Each

0.0000

1.0000

D2597



204 Web

Manufactured

No

10/04/27

12 m-h

①

10-1-6

B-55070 MB 10-01-06

January 5, 2010 8:28:35 AM

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Page 8

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Shop Packet Print

January 5, 2010 8:28:35 AM

Work Order ID: 54889

Parent Item: D204-635-041

Parent Item Name: Replacement Skidtube

Start Date: 05/01/2010

Required Date: 18/01/2010

Start Qty: 1.00

Required Qty: 1.00

Comments:

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq II	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2576-3		Manufactured	No			150	Each	151.0000	1.0000			
Step (maching detail)												

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

151

43504

3

46661

101

52215

47

DE 10/01/11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

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January 5, 2010 8:28:35 AM

Work Order ID: 54889

Parent Item: D204-635-041

Parent Item Name: Replacement Skidtube

Start Date: 05/01/2010

Required Date: 18/01/2010

Start Qty: 1.00

Required Qty: 1.00

Comments:

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2579		Manufactured	No			150	Each	381.0000	17.0000			



Crossbolt Spacer

WarehouseLoc QtyLoc CodeLocation

Main Warehouse

LG

259

51525

4

53780

3

54543

38

54642

214

Main Warehouse

ST

122

43988

4

46434

4

46956

2

47797

9

48272

2

51314

71

51315

30

17 BE 10/01/11

January 5, 2010 8:28:35 AM

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN #	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D2590	REV. 0 SHEET 1 OF 2
DATE 07.04.05		TITLE 204 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.28	REDRAWN, INCLUDED DEO 9094/9097	
D	07.04.05	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124	

RELEASED
07-06-28

QTY -041	Part Number	Description
X	D2590-041	SKIDTUBE ASSEMBLY
1	D2500-1-190	EXTRUSION
1	D2576-3	STEP
17	D2579	CROSS BOLT SPACER
10	D2594-1	PLUG
10	D2594-3	O-RING
1	D2597	204 WEB
1	D2855	AFT CAP
1	D3564-7	WEARSHOE
1	D3564-9	WEARSHOE
1	D3564-11	WEARSHOE
1	D3564-13	WEARSHOE
2	D3566-1	GASKET
1	D3566-7	GASKET
1	D3566-13	GASKET
44	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
44	AN3C4A	BOLT
2	AN3-5A	BOLT
44	AN980C10L	WASHER
2	AN960JD10L	WASHER

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 54589

BT 10-1-05

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2597 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-204 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (44 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-2.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:
ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ASSEMBLY GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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W/O:		WORK ORDER CHANGES				
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

RELEASED
02-06-28

Diagram illustrating the grinding locations for the propeller cross-section:

- GRIND FLUSH (4 PLACES)
- GRIND FLUSH
- 02576-3 STEP
- LOCATION RIDGE ON UNDERSIDE OF 02576
- $\frac{1}{8}$

SEAL WITH SIKAFLEX-241

OR TO D2855 CAP
ATION (2 PLACES)

V3-SA BOLT (1)
10L WASHER (1)
(2 PLACES)

D2855 CAP

0.40

Technical drawing of a circular web assembly. The drawing shows a circular cross-section with a central vertical and horizontal web. Dimensions and labels include:

- D2579 SPACER (pointing to the outer ring)
- D2597 WEB (REF) (pointing to the central web)
- ALST-1032-130 (REF) (TYP 44 PLACES) (pointing to the outer ring)

Assembly instructions:

AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR #0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (17 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2575 SPACER TO Ø0.437 X 1.00 DEEP

[illegible]

Diagram illustrating the geometry of a road cross-section. The diagram shows a horizontal line representing the road surface, with a vertical axis indicating the centerline. The road is divided into two sections by a vertical line. The left section is labeled with a 4% grade, and the right section is labeled with a 10.640% grade. The distance between the hole and the tangent point is indicated as 1.0. The distance between the hole and the tangent point is also indicated as 6.5. The total distance between the hole and the tangent point is indicated as 13.4. The total distance between the hole and the tangent point is also indicated as 37.5 ± 1.0.

D2590-041 ASSEMBLY OF THE

WELD AS PER DETAIL B

BLACK ANTI-SKID TOP OF STEP TO 0.5 ABOVE BOTTOM EDGE

0.5 1.5 1.5

B

P P P P P






D3566-1 D3566-7 D3566-1 D3566-13

D3564-11 D3564-7 D3564-9 D3564-13

REFER TO DETAIL C

AN3C4A BOLT (1)
AN3C4A WASHER (1)
(44 PLACES)

W/O 54889

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	DATE 07.04.05		TITLE 204 SKIDTUBE ASSEMBLY	SCALE 1:24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Chris Provencal

From: David Shepherd [dshepherd@dartaero.com]
Sent: April 19, 2010 12:07 PM
To: 'Chris Provencal'
Cc: 'Mike Petsche'
Subject: RE: NCR 204 Skid

My preference would have been to scrap the tube, but there is a lot of money into it at this point. So ... I asked Dan to install the tow ring ... As long as the tow ring installs OK, the tube should be OK. In the future, we should just leave the tube alone and let the hole overlap the ridge, like it does on 206 skidtubes.

Hopefully, the softening around the tow ring hole from welding won't lead to problems in the field. But if there are problems, they won't be airworthiness problems ... just ground handling problems.

David

From: Chris Provencal [mailto:cprovencal@dartaero.com]
Sent: Monday, April 19, 2010 9:51 AM
To: 'David Shepherd'
Cc: 'Mike Petsche'
Subject: RE: NCR 204 Skid

Dan said you looked at this last time you were here and had a different opinion. He's assembled the tow-ring on the tube and it looks OK. Can we sign this off?

-Chris

From: Chris Provencal [mailto:cprovencal@dartaero.com]
Sent: January 21, 2010 10:20 AM
To: 'David Shepherd'
Subject: NCR 204 Skid

David,

Qty(1) 204 Skidtube. There was lot's of damage on one skidtube ridge from bending. The material removed made the ridge too narrow for the tow-ring hole. The opposite side was fine (pic1).

I had them add weld to the top (mainly, where most of the material was removed) and bottom of the ridge. The result is that the hole now looks good, but there is a visible bulge to the line of the ridge. I suppose that more weld could be added to smooth the transition, but they wanted to limit the amount of weld added to prevent from making a complete mess. We weren't sure how well it would work or how much work would be involved in making it look OK.

I think it's acceptable because the weld is located away from the critical area of the skidtube, and we already weld the ridge in other locations (xbolt spacers). Although it doesn't look perfect, I think it looks much better than a hole spilling off the ridge. Powder coat should also improve the look as well.

-Chris

No virus found in this incoming message.

Checked by AVG - www.avg.com

Version: 8.5.437 / Virus Database: 271.1.1/2820 - Release Date: 04/19/10 06:31:00

NO. 227

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barday Elliott
Job number: 56925
Part number: D205-634-041
Description: 205 skid tube
Welding Process: Tig[☒] Mig[]
Base material: Aluminum
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier P. D. Smith Date of Test Coupon 10-03-19

Welder Barday Elliott Date of Test Coupon 10-03-19

The above named individual is qualified in accordance with AWS D17.1.2001 to weld